

DROSERA REGIA STEPHENS

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Much has been written about this interesting species of sundew over the years, both in the popular literature and indeed on-line in more recent times. Much of what is written would serve to discourage the average hobbyist from attempting cultivation, and as a result until surprisingly recently *Drosera regia* was scarcely seen. The truth however, is that this plant is generally easy to grow successfully, and once established is a long lived perennial which can attain huge dimensions.

Although it is becoming commoner in peoples collections, it remains exceedingly rare in the wild, with one of the smallest and most endangered natural ranges of any *Drosera* species. It is found in a single remote valley at Bainskloof, near Cape Town in South Africa at an altitude of 600-900 m, where it exists as two separate colonies, one of which could possibly already be extinct (pers. comm.) It has been suggested that the two colonies differ by one having slightly broader leaves. Here they are found growing amongst dense grasses which make them somewhat difficult to find, and indeed they compete with the surrounding vegetation by producing their sword-shaped lanceolate leaves up to 50 cm in length—the largest of any *Drosera*. At their bases the leaves can be up to 2 cm wide, gradually tapering to a point at their apex, with many large tentacles up to 4 mm in length, each topped with a generous droplet of mucilage found on the upper surface of the leaf, facing inwards toward the growth point (see Fig. 1). The rear of the leaves is glabrous, with a large raised central vein which runs the entire length. They are a uniform bright apple green color, with the central vein being slightly lighter, and suffusing red at their base by the growth point (see Fig. 2).

Producing leaves of this size enables the plant to capture insect prey of a substantially larger bulk than other species, and unlike other upright species such as *Drosera filiformis* from North America, and *Drosera graminifolia* from South America, *Drosera regia* has not only active tentacles, but is able to curl its leaves along their entire length. This power of movement ensures that the plant can catch and hold prey as large as the common wasp *Vespula vulgaris*, the leaves often folding over more than 360° in the struggle.

The large amount of mucilage produced by the tentacles mean that this species catches many more insects than others, and its leaves can become black with insect carcasses.



Figure 1: Close up of *Drosera regia* leaves.



Figure 2: Red leaf bases of *Drosera regia*.

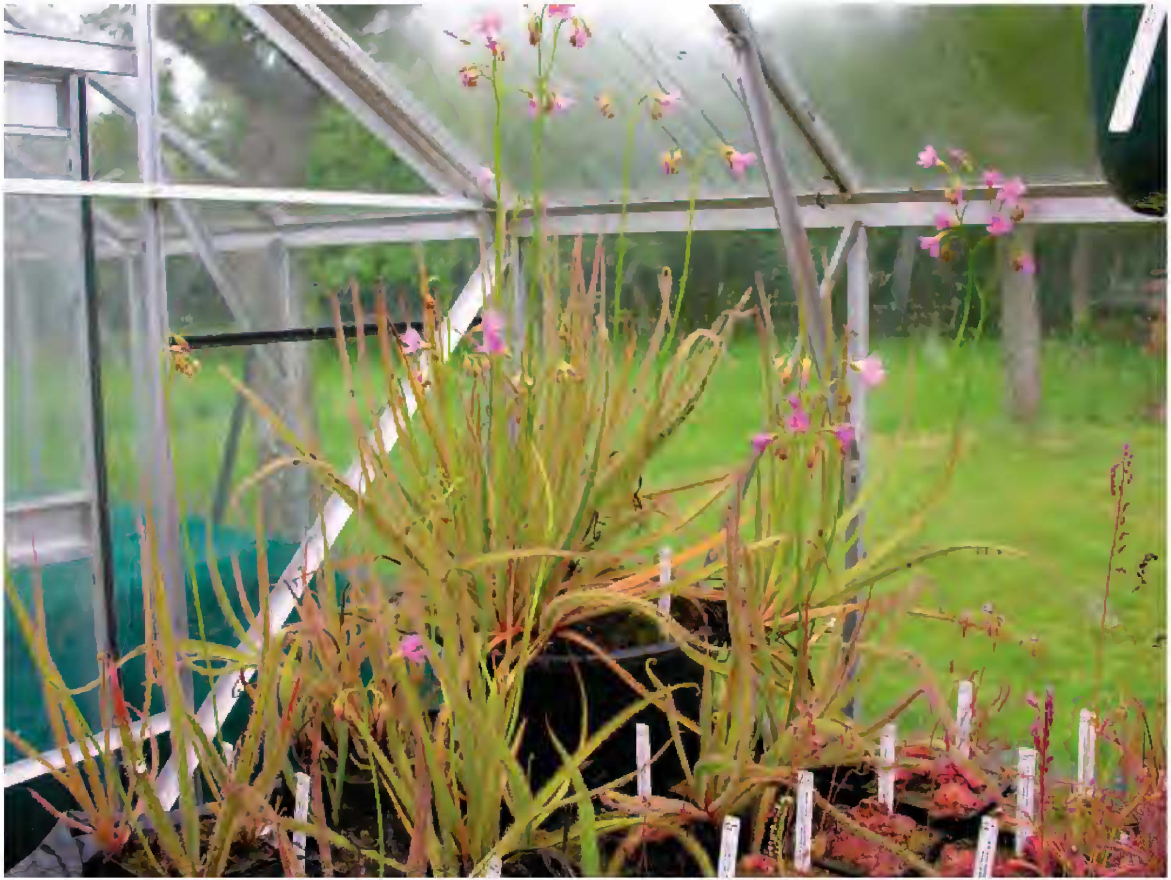


Figure 3: Adult *Drosera regia* plants.



Figure 4: *Drosera regia* plants emerging from dormancy.

lose their growth, producing a kind of loose hibernacula of tiny truncated leaves sometimes barely 1 cm in length (see Fig. 4). At this time they are fairly tolerant of low temperatures, enduring the occasional freeze. With the increase in day length, growth resumes in early March, and within one month they can produce a rosette of 4 or 5 mature leaves which unfurl watch-spring-like until they are fully open.

The first flush of leaves are followed by flower stalks which are easily recognisable as they are circular in cross section, glabrous, and with a narrowly ovate embryonic bud covered in short,

This plant has the unusual characteristic of producing a rhizome, which is clothed by dead leaf bases and which, periodically, divides into two branches. Over many years the whole plant can become very large with numerous growth points. My original plant, which is now over 18 years old, has 6 such growth points and over-hangs its 35-liter pot. It is approximately 60 cm across with leaves usually in excess of 45 cm in length, produced each year (see Fig. 3).

Their growth pattern is fairly similar to many other South African *Drosera* species. Over winter when the light levels drop, they



Figure 5: Glandular *Drosera regia* calyx lobes.



Figure 6: The stigmas are simple and un-receptive.

stalked red glandular hairs—protection from sap sucking insects (see Fig. 5). The flower scapes are usually taller than the leaves and can branch several times, so a single stem may support as many as 20 flowers. The flowers themselves are spectacular, up to 3 cm in diameter, bright pink with darker pink veins running the length of each petal, with the green glandular calyx lobes holding their bases together so that a tube is formed, from which emerge the anthers and



Figure 7: Receptive, fimbriate stigmas, clearly visible.

stigmas. This species is usually regarded as being self sterile, but the flowers have a mechanism for reducing the risk of self pollination. Bright yellow pollen is released copiously shortly after opening, but at this time the stigmas are simple, unbranched, and un-receptive (see Fig. 6). Once the pollen has been released, the stigma tips open and feather out, becoming fimbriate (see Fig. 7). When this occurs, the flower can be pollinated with pollen from another flower (although some residual pollen may be released from the same flower). Several flowers open together to give a better chance of seed-set, and I have obtained a good quantity of seed from single clones. The seeds are falcate and 2 mm in length (see Fig. 8). Of course, having more than one clone is preferable as the resulting progeny are likely to be more variable and vigorous.

After flowering, growth continues, with each growth point producing several more leaves, which toward the end of the season become progressively shorter as autumn approaches. With the onset of winter, the glandular leaves die back and dormancy begins.

Despite what has written about this plant, it is easy to grow in cultivation and as I've already stated is long-lived. Mine grow in the same bed as my other summer growing South African species such as *D. capensis*, *D. admirabilis*, and *D. slackii*, with a southerly aspect in full sun, and stood in 2-3 inches of rain water for the growing season. Over winter the water is reduced down so as the compost remains damp, but doesn't dry out. I use a silver sand and peat moss mix to a ratio of 60% sand and 40% peat which gives good results.

Seed is the best method of producing a number of plants, but it is somewhat slower than in other species. Seed appears not to require any pre-treatment and can be surface sown on plain peat moss in the spring and early summer. Keep in a sunny position and in a tray of rain water, and germination commences in 3-5 weeks. I find it best to leave the seedlings until they are at least 2 cm in height before potting separately in to 7-8 cm pots in the same compost as mentioned above.

Root cuttings work well, and can easily be taken without disturbing the adult plant (which

they seem to dislike, by the way), as they frequently grow out of the drainage holes of their containers and can simply be cut off. Reduce each root to 5 cm in length, and lay on the surface of peat moss. Cover lightly with some torn sphagnum moss, water well from above with rain water, and enclose in a plastic bag to maintain a high humidity. Keep in a bright position away from direct sunlight to avoid overheating, and check weekly. In approximately 4 weeks, the roots will produce tiny green buds which will develop into new plants. Once they are growing well, gradually harden off the plants by making a small hole in the bag, increasing the size of it a little each day for a week, at which time the bag can be removed. As with the seedlings, leave the young plants until they are 2 cm in height before potting separately. The cuttings are best taken in the spring.



Figure 8: Close-up of fresh *Drosera regia* seed.

Seed grown plants are occasionally available at the nursery website at www.hccarnivorousplants.co.uk